

In the Claims:

Applicants respectfully request that the claims of this application be amended so as to read as follows:

1. (Currently Amended) A focus adjustment method for an optical writing unit extending from a first end to a second end transversely across a surface of an image-carrying member, said focus adjustment method comprising:
a pattern image forming process utilizing said optical writing unit to form a test pattern by projecting light modulated by image data of the test pattern from an array of multiple light-emitting elements corresponding to pixels arranged along the main scanning direction over an image forming area onto said surface of said image-carrying member, converting an electrostatic latent image formed on said surface of said image-carrying member into a visible toner image, and transferring said visible toner image from said surface of said image-carrying member onto a printing medium, said test pattern including:
uninterrupted multiple pattern elements disposed generally all along said image forming area in a main scanning direction, said multiple pattern elements being of gradually varying density levels corresponding to different amounts of adjustment; and
adjustment quantity information showing the amount of adjustment corresponding to the density levels of said multiple pattern elements; and
a position adjustment process for separately adjusting the position of said ends of said optical writing unit in such a manner that said optical writing unit is positioned at a proper distance from, and parallel to, said surface of said image-carrying member based on density levels of end portions of each of said multiple pattern elements of said test pattern formed on said printing medium and based upon the amount of adjustment indicated by said density levels of said test pattern formed on said printing medium said adjustment quantity information.

2. Canceled, without prejudice.
3. (Original) The focus adjustment method for the optical writing unit according to claim 1,
wherein said pattern image forming process is a process in which the diameter of
individual dots constituting the pattern elements of the test pattern is varied
according to the density levels of the pattern elements.
4. (Original) The focus adjustment method for the optical writing unit according to claim 1,
wherein said pattern image forming process is a process in which the pattern
elements of the test pattern are binary pattern elements formed of the pixels
according to their varying density levels.
5. (Original) The focus adjustment method for the optical writing unit according to claim 3,
wherein said pattern image forming process is a process in which light-emitting
time of the individual light-emitting elements is controlled according to the
density levels of the individual pattern elements of the test pattern.
6. (Original) The focus adjustment method for the optical writing unit according to claim 3,
wherein said pattern image forming process is a process in which light-emitting
power input to the individual light-emitting elements is controlled according to
the density levels of the individual pattern elements of the test pattern.

7. Canceled, without prejudice.

8. (Original) The focus adjustment method for the optical writing unit according to claim 1 further comprising an assembly process for installing the optical writing unit at an offset position closer to or farther away from the image-carrying member than a position where the focal point of the light emitted from the individual light-emitting elements is expected to coincide with the surface of the image-carrying member before execution of said pattern image forming process.

9. (Original) The focus adjustment method for the optical writing unit according to claim 8, wherein said assembly process is performed when both ends of the optical writing unit at extremities of the image forming area in the main scanning direction are affixed to an adjustment mechanism.

10. (Currently Amended) A focus adjustment device for an optical writing unit having first and second ends, said focus adjustment device comprising:
a memory for storing data on a test pattern, the test pattern including:
multiple uninterrupted pattern elements of gradually varying density levels corresponding to different amounts of adjustment extending all along a main scanning direction in an image forming area; and
adjustment quantity information denoting the amount of adjustment
corresponding to the density levels of the pattern elements;
an image former including said optical writing unit for performing image forming operation to form the test pattern stored in the memory; and
an adjustment mechanism for separately adjusting the position of each end of said optical writing unit relative to a surface of an image-carrying member in a direction of light emitted from multiple light-emitting elements corresponding to pixels arranged along a main scanning direction over said image forming area in such a manner that said optical writing unit is positioned at a proper distance from, and parallel to, said surface of said image-carrying member according to said
adjustment quantity information.

11. (Original) The focus adjustment device for the optical writing unit according to claim 10, wherein said adjustment mechanism includes:
a retainer for holding the optical writing unit via a moving mechanism in such a way that the position of the optical writing unit relative to the surface of the image-carrying member can be freely varied in the direction of the light emitted from the light-emitting elements;
an actuator for providing the moving mechanism with motive power for varying the position of the optical writing unit; and
a controller for controlling operation of the actuator according to said amounts of adjustment.

12. (Original) The focus adjustment device for the optical writing unit according to claim 10, wherein said adjustment mechanism includes an input section for accepting an input of the amount of adjustment determined with reference to an image of the test pattern formed on a printing medium by the image forming operation based on the data stored in the memory.
13. (Original) The focus adjustment device for the optical writing unit according to claim 10, wherein said adjustment mechanism varies the position of the optical writing unit relative to the surface of the image-carrying member in the direction of the light emitted from the light-emitting elements according to the amount of adjustment determined from image data obtained by reading an image of the test pattern formed on a printing medium by the image forming operation based on the data stored in the memory.
14. Canceled, without prejudice.
15. (Original) The focus adjustment device for the optical writing unit according to claim 10, wherein said image former varies the diameter of individual dots constituting the pattern elements of the test pattern according to the density levels of the pattern elements.

16. (Original) The focus adjustment device for the optical writing unit according to claim 10, wherein said image former forms binary pattern elements made of different numbers of pixels according to the varying density levels of the individual pattern elements of the test pattern.
17. (Original) The focus adjustment device for the optical writing unit according to claim 15, wherein said image former controls light-emitting time of the individual light-emitting elements according to the density levels of the individual pattern elements of the test pattern.
18. (Original) The focus adjustment device for the optical writing unit according to claim 15, wherein said image former controls light-emitting power input to the individual light-emitting elements according to the density levels of the individual pattern elements of the test pattern.
19. Canceled, without prejudice.
20. (Original) The focus adjustment device for the optical writing unit according to claim 10, wherein said adjustment mechanism varies the position of the optical writing unit to an offset position closer to or farther away from the image-carrying member than a position where the focal point of the light emitted from the individual light-emitting elements is expected to coincide with the surface of the image-carrying member before execution of the image forming operation by said image former.

21. (Currently Amended) An image forming apparatus comprising a focus adjustment device for performing electrophotographic image forming operation by projecting light modulated by image data onto an image-carrying member from an optical writing unit of which position relative to a surface of the image-carrying member has been adjusted by means of said focus adjustment device which includes:

a memory for storing data on a test pattern, the test pattern including:

multiple uninterrupted pattern elements of gradually varying density levels corresponding to different amounts of adjustment extending all along a main scanning direction in an image forming area; and

adjustment quantity information denoting the amount of adjustment corresponding to the density levels of the pattern elements;

an image former including said optical writing unit having first and second ends for performing image forming operation to form the test pattern stored in the memory; and

an adjustment mechanism for separately adjusting the position of each end of said optical writing unit relative to a surface of an image-carrying member in a direction of light emitted from multiple light-emitting elements corresponding to pixels arranged along a main scanning direction over said image forming area in such a manner that said optical writing unit is positioned at a proper distance from, and parallel to, said surface of said image-carrying member according to said amounts of adjustment according to said adjustment quantity information.

22. (Original) The image forming apparatus according to claim 21 further comprising an image reader for reading an original image, and said focus adjustment device further including a controller for determining the amount of adjustment of the optical writing unit based on the test pattern which is formed on a printing medium by the image former of said focus adjustment device and read by said image reader.